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ABSTRACT

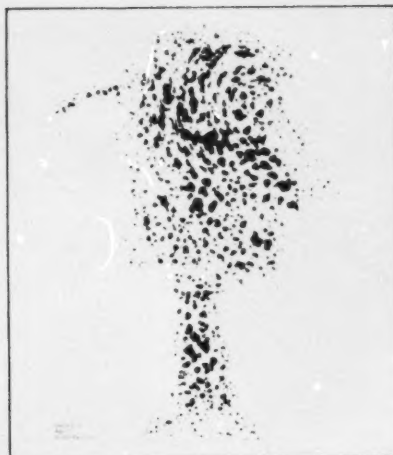
The School Planning, Evaluation, and Communication System (SPECS) is an overall design for districtwide program assessment and development. It is both a way of interrelating planning and evaluation of individual programs and a way of comparing the outcomes of all district programs with the district's community-defined educational goals. Component Two of the five SPECS components is a program budgeting and accounting system that provides a way to collect and analyze financial information about actual operating programs. This booklet is designed to assist school district personnel in implementing a program budgeting and accounting system from line item to program format. For districts interested in a more comprehensive approach to developing management information, this booklet can serve as a guide to the financial accounting portion of the district's programs. The booklet may be used either alone to install program budgeting and accounting procedures or in conjunction with the remaining SPECS implementation booklets that detail procedures for implementing the other four components of SPECS. The booklet attempts to answer key questions, sets down 14 steps toward implementation, suggests other applications of the system, and lists benefits and problems. (Author/JM)

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SPECS 2

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EA 011 375

**Component Two:
Program Budgeting
and Cost Accounting**

Lloyd A. DuVall

This booklet was developed by the staff of the SPECS Program within CASEA, the research and development unit of the Center for Educational Policy and Management (CEPM) at the University of Oregon. CEPM is supported in part by funds from the National Institute of Education (NIE). Opinions expressed in the booklet do not necessarily reflect policies or positions of either CEPM or NIE, and no official endorsement by either organization should be inferred.

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Preface

SPECS is a comprehensive set of procedures and materials designed to facilitate program planning and evaluation in schools. Initial development of the system began in 1969. It was implemented on a pilot basis in South Lane School District, Cottage Grove, Oregon, beginning in 1970, and thoroughly revised during 1974 and 1975.

To help personnel in a district learn more about SPECS, plan for its implementation, and begin to make any or all of its five components operational, several different kinds of materials have been developed. They include an illustrated monograph entitled **SPECS: What It Is and What It Does**; a series of implementation booklets relevant to each component of the system; and a set of operational forms for documenting program plans and results.

This booklet deals with the second of the five SPECS Components — Program Budgeting and Cost Accounting. It provides a set of steps and suggestions for personnel who are contemplating the implementation of program budgeting and cost accounting. Much of the material contained in the booklet is the direct result of experience gained by school district and university personnel in implementing the components.

Several people have contributed to the work represented in these pages. Terry Eidell, Jack Nagle and Harold Walker conducted most of the early conceptualization and development of SPECS. SPECS Development Team members Barbara Cole, Stephanie Henderson and Mary Ann Cheshire deserve special recognition for their editorial and production assistance. Harry Baldwin of the Wall Township, New Jersey, Board of Education supplied many of the operating documents upon which many of the materials shown in this booklet are based. Finally, Ralph Forsythe, University of Denver, contributed the insights gained from his experience in implementing program budgeting and cost accounting in a number of school districts.

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Franz Goebel
Age 11
Paper cut-out



1. Rationale

Five Components

Crucial to SPECS is its overall design for district-wide program assessment and development. The design suggests both a way of interrelating planning and evaluation of individual programs and a set of procedures for comparing the outcomes of all district programs with the district's community-defined educational goals.

The monograph entitled **SPECS: What It Is and What It Does** includes a detailed description of that design, but it may be useful here to review it briefly. As illustrated in Figure 1, the first three components of SPECS constitutes its operating subsystem and are primarily the responsibility of a school district's professional staff of teachers and administrators. Taken together, they encourage systematic program planning and evaluation and the production of explicit, documented information about the "what is" state of a district's operating programs — what they are, how they are interrelated, their plans, and their results. Component Four, the monitoring subsystem of SPECS, solicits views from the district's community on the "what is preferred" state of district programs. And Component Five, the policy-making subsystem of SPECS, encourages the district's board of education to use this documented information about "what is" and "what is preferred" as a basis for identifying and resolving the district's most critical needs.

The overall design of SPECS protects and yet simultaneously interrelates the different prerogatives of a district's professional staff, lay citizens, and school board members. For example, program planning and evaluation by the district's teachers and administrators, and broad goal definition by representatives of its larger community are separate and distinct activities. There is no prescribed order in which they must occur, and neither has more intrinsic worth than the other. In

addition, although both sets of activities generate information which is essential to assessing district goals and identifying high priority needs, it remains for a district's board of education to identify and resolve the most critical discrepancies between program outcomes and community expectations.

Component Two of SPECS deals with the financial portion of the "what is" state of a district's operating programs. It provides a way to collect and analyze financial information about actual operating programs.

This allows for the integrated use of financial information with other kinds of information which are collected and used in a district.

Budgeting and Cost Accounting

All school districts maintain procedures for requesting and accounting for the use of funds. Schools are required by law to follow certain procedures for budgeting and maintaining records which show how funds have been used. In most cases, these procedures follow time-honored practices of sound accounting procedures. Recently, however, demands have been made for accounting and budgetary data to provide more information to an accountability minded public and to school policy makers.

As a result, new accounting and budgetary procedures have been instituted in various government agencies. Similarly, demands for more information have been made on the educational institution as well. In answer to these demands, the United States Office of Education provided guidelines for adopting the "program budgeting and accounting" approach in school districts. This effort has resulted in the publication of the new Handbook II, Revised entitled, **Financial Accounting: Classifications and Standard Terminology for Local and State School Systems 1973**.¹

Under traditional procedure, schools keep track of financial

transactions under broad categories; for instance, materials and supplies, professional personnel salaries, or capital outlay. This system does not provide either the public or the board of education with information regarding the costs of operating programs. Programs such as Reading, English, Music, or transportation are all incorporated into the larger budget, leaving no way to identify the real costs associated with these programs.

Program budgeting and accounting provides a way to plan for and monitor the expenditure of funds in accordance with the specific instructional or support programs which the funds can purchase. In this way, the public is better informed about the school's use of funds and policy makers have financial information about programs and their comparative costs.

This booklet is designed to assist school district personnel in implementing a program budgeting and accounting system from line item to program format. For districts which are interested in a more comprehensive approach to developing management information, this booklet can serve as a guide to the financial accounting portion of the district's programs. Thus, this booklet may be used either alone to install program budgeting and accounting procedures, or in conjunction with the remaining SPECS implementation booklets which detail procedures for implementing the other four components of SPECS.²

¹Charles T. Roberts and Allan R. Lichtenberger, **Financial Accounting: Classifications and Standard Terminology for Local and State School Systems** (Washington: U.S. Government Printing Office, OE-73-11800, 1973).

²Other booklets include **The Component One Implementation Booklet: A Systems Analysis of a School District**, **The Component Three Implementation Booklet: Instructional Program Planning, Evaluation and Communication**, **The Component Four Implementation Booklet: Community-Based Broad Goal Definition**, and **The Component Five Implementation Booklet: Assessing Achievement of the District's Broad Goals**. Each may be used individually or in combination with others.

Major Objectives

There are two major objectives for this booklet. The first is to provide a series of steps which will result in an annual program budget. By implementing each of these steps, a school can have a budgeting process which provides a plan for expenditures based on the school's operating programs.

Secondly, this booklet provides a format for implementing accounting procedures which will provide information about costs incurred for those programs for which budget figures were prepared. These accounting procedures will result in statements which include current fiscal year budgets, expenditures and encumbrances to date, and balance figures for each program.

Once such budgeting and accounting procedures become operational, it is possible to match program budgets with expenditures for these same programs, inform the public of the purpose for expenditures, and provide information to boards of education, administrators, and teachers in a way which prevailing line item accounting procedures do not permit.

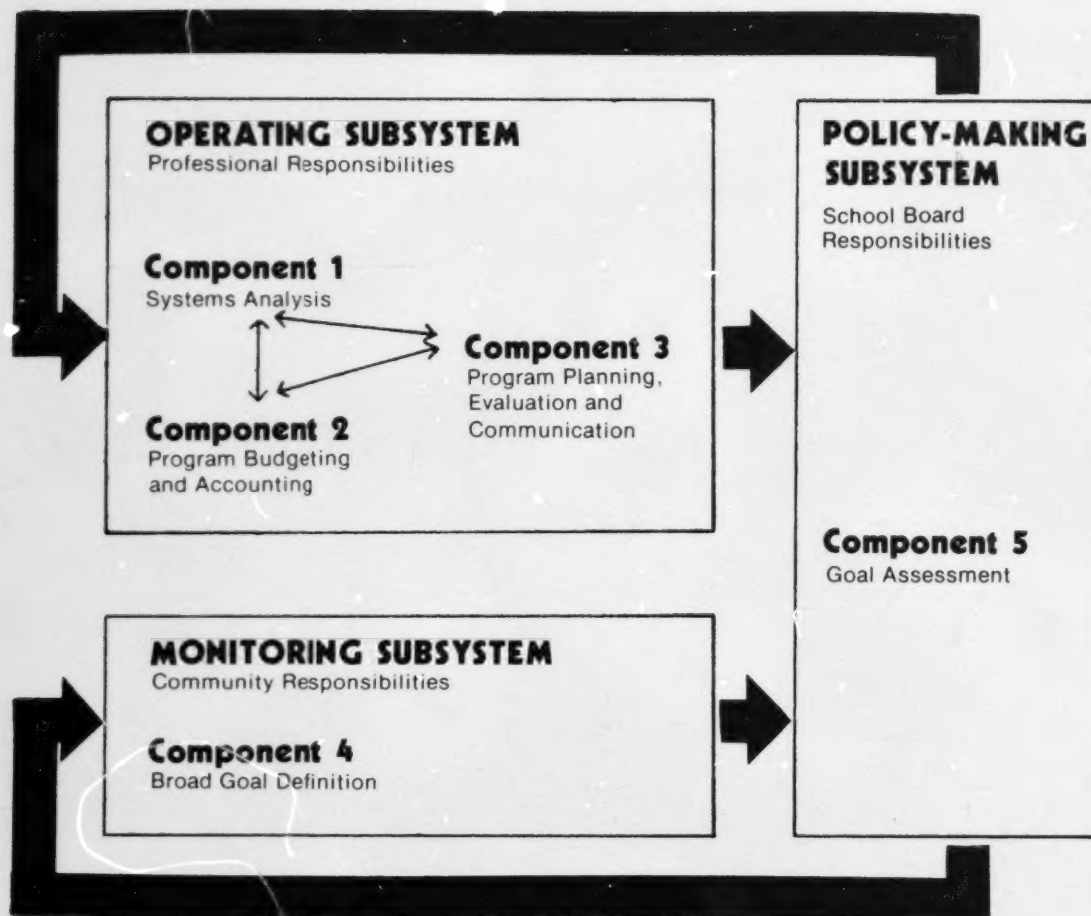


Figure 1: The SPECS Design



Daphne Ruff
Age 16
Silk Screen on Fabric

2. Key Questions

When school districts consider the possibility of converting their financial accounting procedures to a program format, several questions invariably arise. These are important questions which personnel in each district must answer for themselves. The answers generated will, in large part, define the accounting procedures to be used and the degree to which those procedures can provide useful information.

Is the Computer Necessary?

The amount of information handled is significantly increased under a program budgeting and accounting system. For example, rather than simply accounting for the expenditure of funds for salaries, it is now necessary to pro-rate those salaries across all programs in the district. Thus, the workload for an accountant is increased many times. While it is conceivably possible for such a workload to be handled manually, the computer offers not only the possibility for handling the increased work more easily but more quickly as well.

How Long Will the Changeover Take?

While some districts have implemented the shift to the program format in one year, others have taken three to five years, and still others have not completely moved to a program format after eight years. Experience has shown that a minimum of one year should be allowed. With concerted effort, with well trained personnel, and most of all, with the will to make the shift, one to two years is a reasonable period of time.

How Much Will It Cost?

Costs will vary among districts. Four major cost items are encountered by each district, however. First, costs are incurred in personnel time to do the work involved. The specific costs will depend on the amount of time devoted to the task. A second

cost is the redesign and production of necessary forms and materials. In some districts this is a minimal cost because very little change is required in the forms currently used in the district. However, in other districts more major changes are required in the forms. Third, additional staff training is necessary in changing to a program format. Again, in districts in which personnel are currently involved in requisitioning and accounting procedures, the amount of time needed for in-service training is minimal — probably several one-day workshops followed by individual attention from an administrator. In other districts, however, in-service needs will be more acute. Finally, the cost for computer application must be considered. Such costs may vary depending on the availability of computer programs for the district, the cost of machine time or machine purchase, and the amount of information desired. It is suggested that a knowledgeable programmer be contacted at an early date to determine specific costs of the application envisioned for the district.

How Should It Be Implemented?

Two principal approaches may be taken. First, a district may spend two or more years perfecting its program budgeting and accounting system while retaining its former budgeting system. Then, at a given date, the district will change completely to the new system. A second approach is to spend one year developing the program format, and a second year running both the program and the line item budgeting and accounting systems, moving totally to the program format at the end of the second year. This approach allows for "de-bugging" the new system without jeopardizing the integrity of the present accounting system.

Who Should Be Involved?

At the outset, strong board of education support is essential inasmuch as financial information will reach the board in a program format rather than the line item format to which they have been accustomed. From the beginning, it is essential that the Board be involved. To complete the initial phase of implementation, the superintendent and the business manager must be involved. In addition, much of the early work will involve training personnel having the technical expertise for recasting budgets and planning accounting procedures. As the new system becomes operational, all persons who are expected to provide information or to directly use the information generated must be involved. In summary, the involvement of district personnel will grow as more people become directly involved.



Chuck Wedlake
Age 11
Pencil

3. Definitions

Throughout this booklet terms are used which have specific definitions which in general, conform to common usage. However, these terms must be understood, if the procedures suggested in this booklet are to result in successful implementation.³

Account

A description heading under which are recorded financial transactions that are similar in terms of a given frame of reference, such as purpose, object, or source.

Appropriation

An authorization (by the board of education) to make expenditures and incur obligations for a specific purpose.

Budget

A plan of financial operation embodying an estimate of proposed expenditures for a given period of time and the purpose of those expenditures. A budget usually also includes the proposed means of financing the proposed expenditures.

Chart of Accounts

A listing of all accounts generally used in a school district. In addition to an account title, the chart includes an account number which has been assigned to each account.

Cost Center

The smallest segment of a program that is separately recognized in the school's records, accounts and reports.

Direct Costs

Those elements of cost which can be easily, obviously, and conveniently identified with specific activities or programs.

Encumbrances

Purchase orders, contracts, and salary or other commitments which are chargeable to an appropriation and for which a part of the appropriation is reserved.

Function

Units of activities or programs which are conducted to achieve the objectives of the district. Typical functions for a school district may include instruction, supporting services, community services, debt services, and non-programmed charges.

Fund

An independent accounting entity with its own liabilities, assets, and balances. Generally, funds are established to account for the financing of specific activities in a school's operation.

Indirect Costs

Elements of cost of providing a service which cannot be readily or accurately identified with the specific service or commodity.

Object

The commodity or service obtained from a specific expenditure.

Program

A plan or set of activities designed to accomplish a predetermined objective or set of related objectives.

Program Structure

A categorization of programs and subprograms into varying levels of detail which shows relationships between programs and subprograms. The structure is a logical method for relating district activities to like activities and for combining like activities into a larger unit of the structure.

³Definitions are based upon the glossary appearing in Roberts and Lichtenberger, **Financial Accounting: Classifications and Standard Terminology for Local and State School Systems** (Washington, U.S. Government Printing Office OE-73-11800) 1973, pp. 115-144.



Laura Fine
Age 10
Glitter Painting

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4. Fourteen Steps to Implementation

Experience has shown that implementing a program budgeting and cost accounting system is time-consuming and will vary from district to district. There are, however, some procedures which every district can follow to minimize the disruptive effects and to avoid errors. These procedures have been broken into fourteen steps. By following these steps, and making necessary alterations to satisfy district requirements, a district can put a program budgeting and cost accounting system into operation.

1. Prepare a Plan and Schedule

A plan for implementing the program budgeting and cost accounting system is essential. Since the purpose of such a plan is to provide a blueprint for action and serve as a communication device, the plan should contain a specification of tasks, target dates for accomplishing those tasks, and the identification of persons responsible. It should also include the procedure which will be used for phasing in the new system as well as outlining the projected inservice for staff and the ways in which various staff members will be involved. Also, requirements of state law for reports and information must be considered. Too much care cannot be taken in this first step, for the potential success of implementation lies in a carefully considered and thoroughly checked plan.

Such a plan was developed and followed by the fictitious Emerald School District. This plan is shown on page 14. Note that activities are planned to fit the regular budgeting and fiscal reporting cycles. Note also that the new procedures were developed parallel to the operation of the present system. In this way, procedures, forms, and inservice training approaches were tested before the new system was made operational. Finally, several strategic points were identified for decisions concerning the contin-

ued development of the new system. This allowed Emerald personnel to monitor progress to date and, based upon that progress, make conscious decisions about the next steps. In this way the district's ability to conduct its financial affairs was never in jeopardy.

This plan shows an example of how one district altered the fourteen steps outlined in this booklet to suit their particular needs. However, even though the steps were altered, district personnel made sure that the tasks included in the fourteen steps were completed at some point in the implementation process.

2. Prepare the Program Structure

The program structure reflects the relationships which exist between and among all of the operating programs in a district. It is, in essence, a logical categorization of specific programs into larger units, which in turn, can be categorized into still larger units. For the levels designated by each of these units of combined programs, objectives can be generated and achievements noted. Although not necessarily a fiscal tool, these same units or levels in organizations can be used for collecting and aggregating cost information. The program structure, then, becomes not only a logical way to view the district's programs, but also becomes the skeleton for the budgeting and cost accounting system.

Districts which have implemented Component One of SPECS will have already developed a program structure. Districts which have not completed Component One will need to develop a structure which reflects the operations of that district. Procedures for districts wishing to develop a program structure for fiscal purposes are outlined in the **SPECS Component One Implementation Booklet: A Systems Analysis of a School District.**⁴ Therefore, they will not be repeated here. Although the

approach shown here was the one chosen by the Emerald School District, examples of other approaches to building a program structure are outlined in **Handbook II Revised.**⁵ Emerald's program structure, which is shown on pages 15-18, is in essence a duplicate of the flowchart which resulted from the full systems analysis (see Component One Implementation Booklet).

⁴John M. Nagle, Harold E. Walker and Lloyd A. DuVall, **The Component One Implementation Booklet: A Systems Analysis of a School District**, 1976.

⁵Roberts and Lichtenberger, *op. cit.*

EMERALD SCHOOL DISTRICT
Program Budgeting and Cost Accounting Implementation Plan

TASK	RESPONSIBILITIES OF	TARGET COM- PLETION DATE
Secure Board of Education authorization to implement.	Superintendent	July
Develop program budget implementation plan.	Business Manager	July
Orient district personnel to the concepts and methodology of program budgeting.	Business Manager	September
Review program structure developed in Component One.	Superintendent with Business Manager	September
Identify Object-Cost categories.	Business Manager	September
Identify computer system.	Superintendent with Business Manager	October
Determine program budget preparation requirements: 1. Level in program structure at which program budgets will be developed and financial accounts maintained. 2. District persons responsible for preparing the budgets.	Superintendent with Business Manager	October
Prepare code and dictionary.	Business Manager	October
Determine direct cost items.	Business Manager	October
Recast latest approved budget into program format.	Business Manager	November
Develop budget guidelines for budget year.	Superintendent with Business Manager	November
Prepare program budget preparation schedule.	Business Manager	December
Design program budget forms and procedures.	Business Manager and Programmer	December
Conduct program budget preparation workshop.	Business Manager	January
Prepare program budget requests: 1. Describe desired program changes. 2. Identify full program costs, including personnel.	Program Managers	February
Review and compile program budgets — building level.	Principals	February
Review and compile program budgets — central office level.	Business Manager	March
Present budget to Board	Superintendent	April
Begin program cost accounting	Business Manager	May
Review problems and progress to date.	Superintendent with Business Manager	June
Begin full use of new system.	Superintendent with Business Manager	July

EMERALD SCHOOL DISTRICT FLOWCHARTS OF DISTRICT FUNCTIONS **Chart #1: All Functions Disaggregated to Level Two**

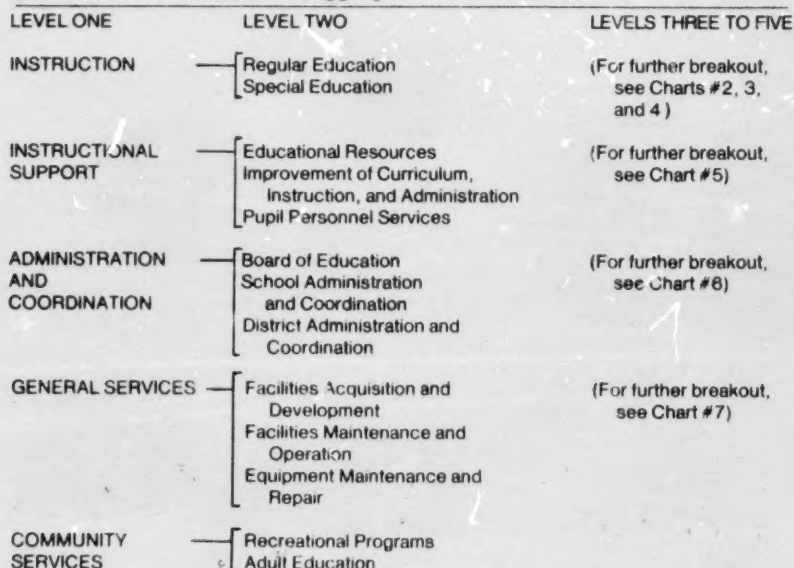


Chart #2: Instruction All Schools, Emerald School District

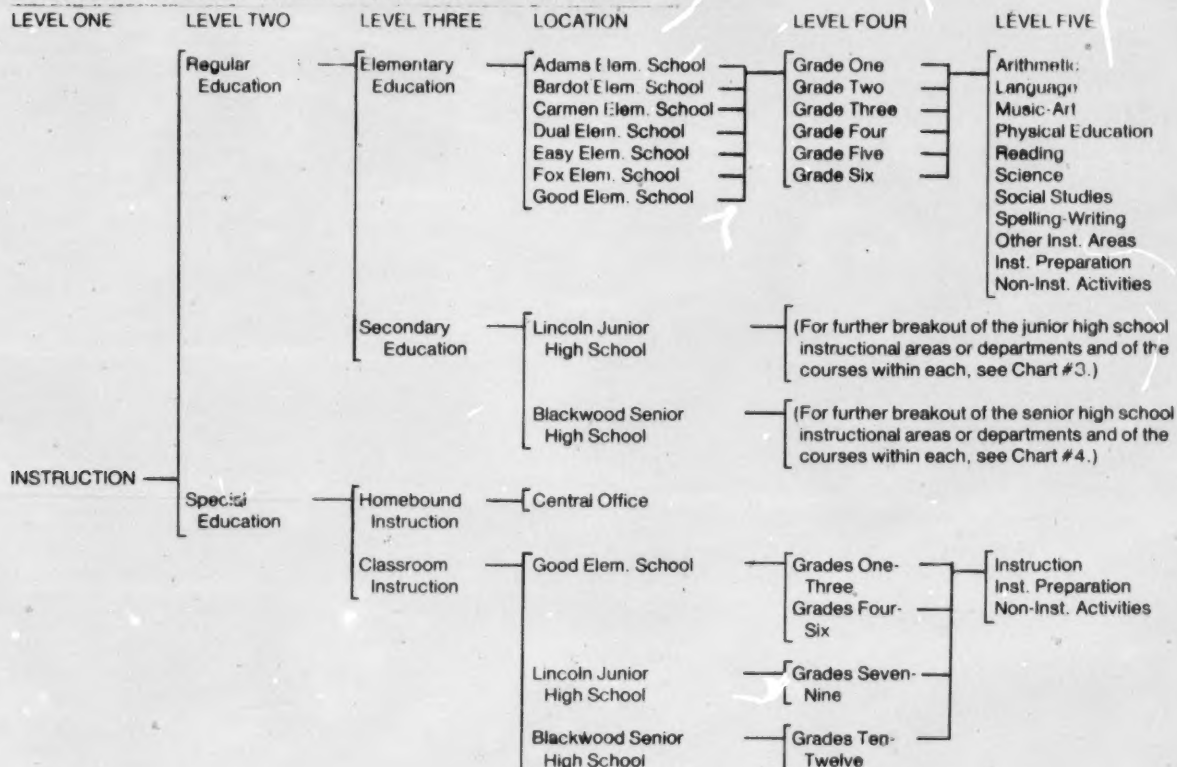


**Chart #3: Instruction, Lincoln Junior High School,
Emerald School District**

LOCATION	LEVEL FOUR	LEVEL FIVE
Lincoln Jr. High School	Foreign Language	French I French II Spanish I Spanish II
	Homemaking	Home Economics I Home Economics II
	Industrial Arts	Shop I Shop II
	Physical Education	Activities Health
	Science	7th Grade 8th Grade General Science
	Social Studies	7th Grade 8th Grade 9th Grade

continued

LEVEL FOUR	LEVEL FIVE
Other Instructional Areas	
Instructional Preparation	
Cocurricular Activities	
Language Arts	7th Grade 8th Grade 9th Grade
Mathematics	7th Grade 8th Grade 9th Grade
Music-Art	Music Art

**Chart #4: Instruction, Blackwood Senior High School,
Emerald School District**

LOCATION	LEVEL FOUR	LEVEL FIVE
Blackwood Sr. High School	Art	Art Crafts Graphics
	Business Education	Bookkeeping I Bookkeeping II Business English Business Law Business Math Office Machines Shorthand I Typing I Advanced Typing
	Driver Education	
	English	Creative Writing English 10 English 11 English 12 Journalism Speech
	Vocational Education	Architectural Drafting Shop
	Mathematics	Algebra I Algebra II Algebra III Math Essentials Plane Geometry Solid Geometry
	Physical Education	Activities Health

LEVEL FOUR	LEVEL FIVE
Science	Biology Physical Science Physics
Social Sciences	American Government American History Economics Psychology World History
Instructional Preparation	
Cocurricular Activities	
Foreign Languages	French I French II French III Spanish I Spanish II Spanish III
Home Economics	Home Economics II Home Economics III

Chart #5: Instructional Support

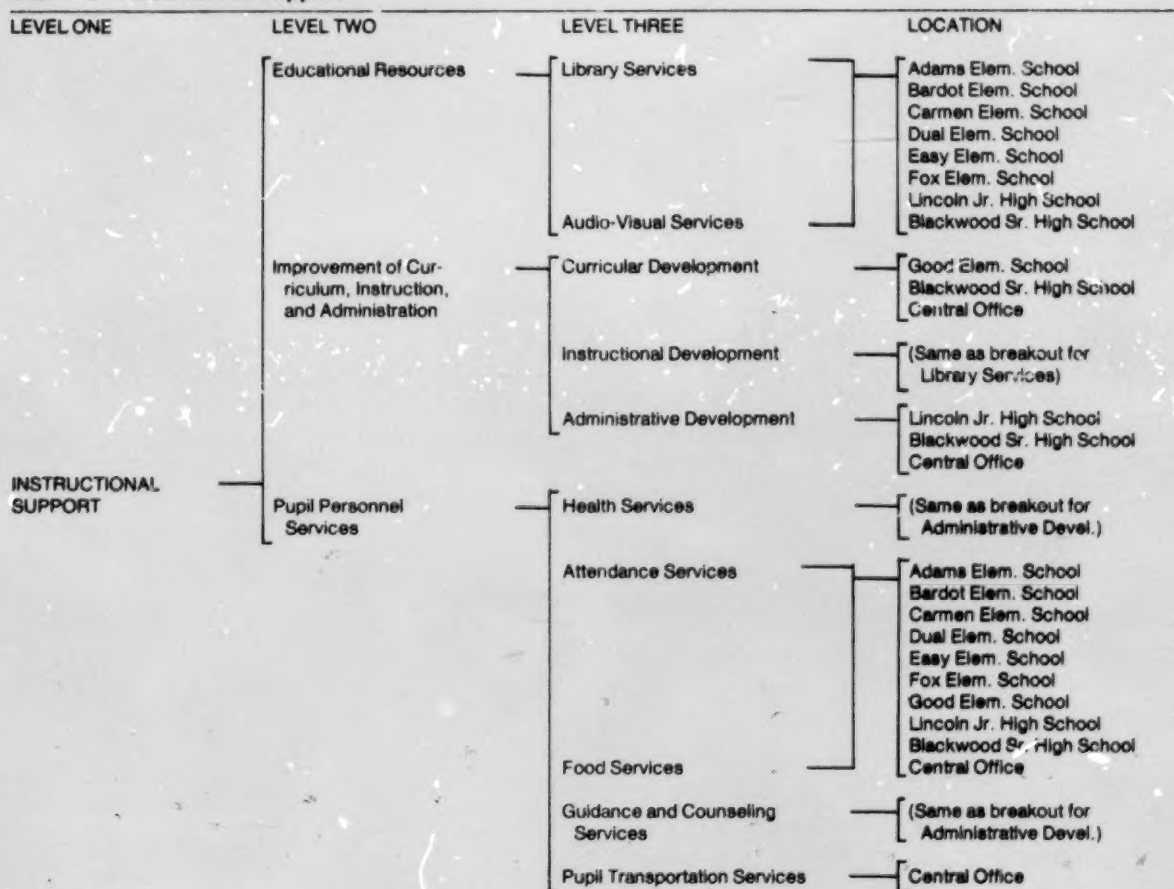


Chart #6: Administration and Coordination

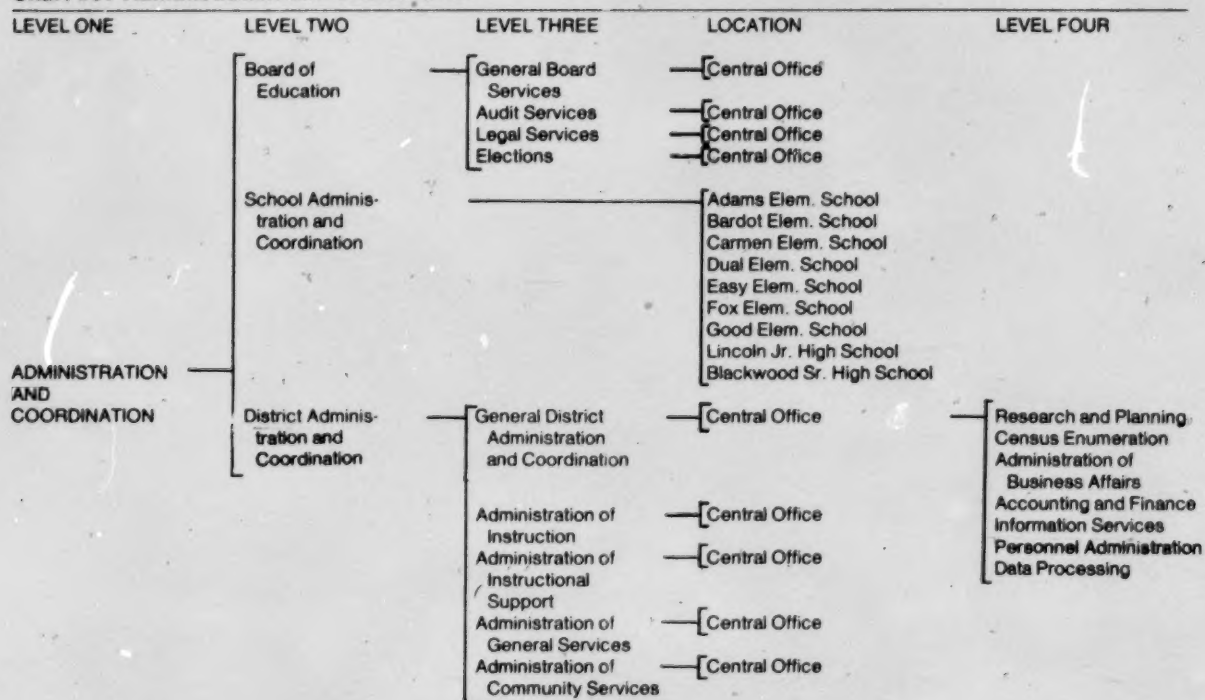
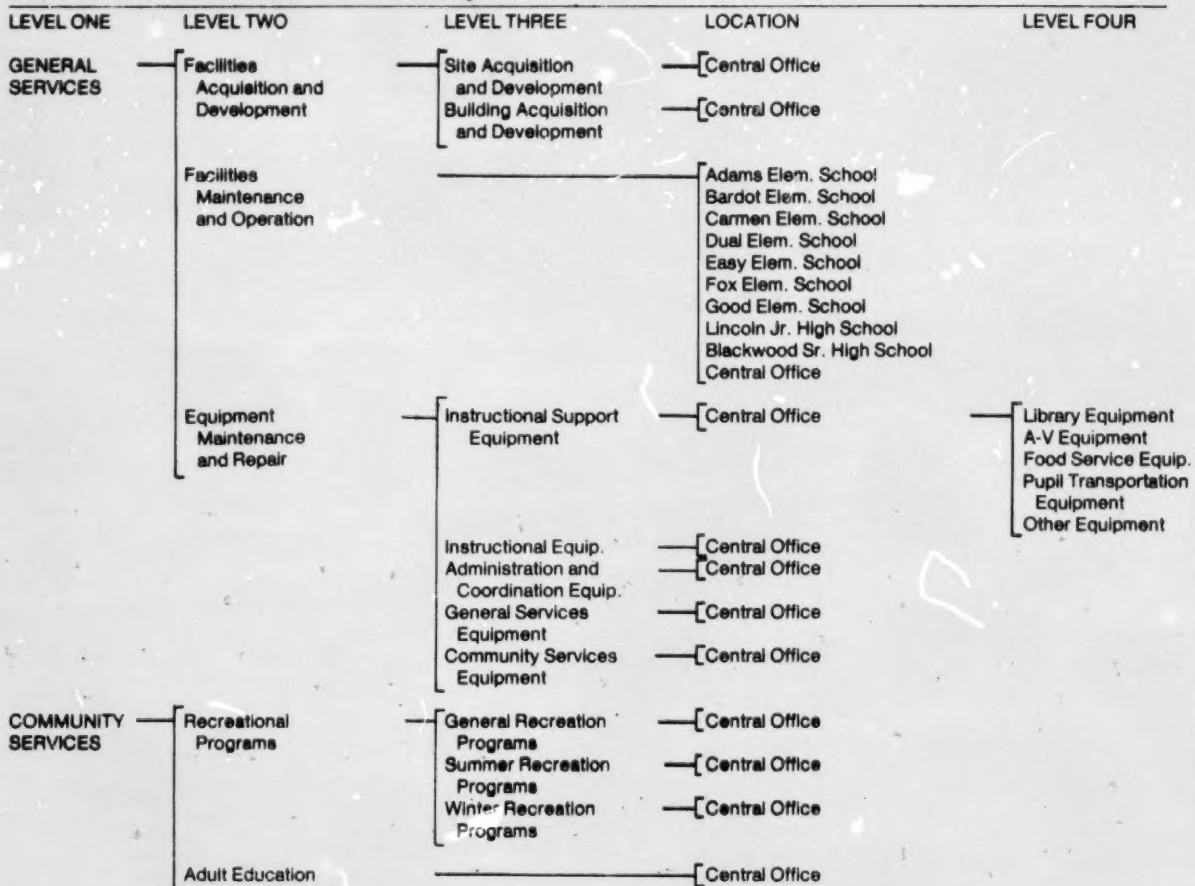


Chart #7: General Services and Community Services



3. List the Object-Cost Categories

Object-costs are the specific services or commodities obtained as a result of expenditures. For accounting purposes they are categorized into units of like expenditures.

The specific manner in which objects are categorized can be derived from a number of sources. State accounting procedures often suggest categories; practices in a district often result in convenient categories for local use; and sound accounting practices often dictate categorization. **Handbook II Revised**⁶ lists one set of categories which a district may follow.

In two fictitious school districts, the Emerald District and the Diamond District, slightly different lists of object-cost categories were developed. These lists reflect those categories mandated by laws of their respective states and their own determinations of appropriate categories.

EMERALD SCHOOL DISTRICT OBJECT-COST CATEGORIES

Salaries

Regular salaries

1. Certified
2. Classified
3. Supervisory

Temporary Salaries

1. Certified (Substitutes)
2. Classified (Hourly)

Overtime Salaries

1. Certified (Extended)
2. Certified (Extra Duty)
3. Classified (Overtime)

Employee Benefits

Public Employees Retirement System

Social Security Administration

Employee Insurance

1. Workmen's Compensation
2. Health and Accident

⁶Ibid.

3. Life
4. Annuity

Other Employee Benefits

1. Vacation Pay
2. Sick Leave Pay
3. Miscellaneous Benefits

Purchased Services

Professional and Technical Services

1. Instruction Services
2. Instructional Program Improvement Services
3. Pupil Services
4. Staff Services
5. Management Services
6. Data Processing Services
7. Statistical Services
8. Board of Education Services
9. Other Professional and Technical Services

Property Services

1. Repair and Maintenance Services
2. Property Insurance
3. Rental and Lease
4. Electricity (Other than heating or cooling)
5. Fuel for Heat
6. Water and Sewage
7. Garbage
8. Other Property Services

Transportation Services

1. Pupil Transportation
2. Travel - Within District
3. Travel - Outside District
4. Other Transportation Services

Communication

1. Telephone and Telegraph
2. Postage

Advertising

Printing and Binding

Tuition

Other Purchased Services

Supplies and Materials

Supplies

1. Freight
2. Gas and Oil
3. Tires and Batteries

4. Repair Parts (Transportation)
5. Teaching Supplies
6. Food

Textbooks

Library Books

Periodicals

Audio-Visual Software

Other Supplies and Materials

Capital Outlay

Land

Buildings

1. New Buildings and Additions
2. Remodeling

Improvements Other Than Buildings

Equipment

1. Initial and Additional Equipment Purchase
2. Replacement Equipment Purchase

Vehicles

1. Initial and Additional Vehicle Purchase
2. Replacement Vehicle Purchase

Other Capital Outlay

Other Objects

Redemption of Principal

1. Principal of Serial Bonds
2. Principal of Short-Term Loans

Interest

1. Interest on Serial Bonds
2. Interest on Short-Term Loans

Dues and Fees

Insurance and Judgments

1. Liability Insurance
2. Fidelity Bond Premiums
3. Judgments Against the Local Education Agency
4. Other Insurance and Judgments

Miscellaneous Objects

Transfers

Fund Modifications

Transits

Other Transfers

Contingency

In the Diamond School District, the list of object-cost categories follows the same general categorization as in Emerald. However, differences do occur in sub-categories within similar categories.

DIAMOND SCHOOL DISTRICT OBJECT-COST CATEGORIES

Salaries

Certified

1. Regular
2. Temporary
3. Extra Duty

Non-Certified

1. Regular
2. Temporary
3. Overtime

Benefits

Certified

1. Social Security
2. Workmen's Compensation
3. Hospitalization
4. State Retirement System

Non-Certified

1. Social Security
2. Workmen's Compensation
3. Hospitalization
4. State Retirement System

Purchased Services

Professional & Technical

1. Instructional Service
2. Instructional Improvement
3. Pupil Services
4. Staff Services
5. Management Services
6. Data Processing Services
7. Statistical Services
8. Board of Education
9. Other

Property Services

1. Repair & Maintenance
2. Property Insurance
3. Rentals & Leases
4. Electricity (Non-Heat)
5. Gas (Heat)
6. Oil (Heat)
7. Water & Sewage
8. Cleaning
9. Gas (Non-Heat)

Transportation Services

1. Pupil Transportation (Contract)
2. Travel Within District
3. Travel Outside of District
4. Freight
5. Gas & Oil
6. Tires, Tubes, and Batteries
7. Repairs
8. Other

Communication Services

1. Telephone
2. Postage

Advertising

Printing and Binding

Tuition

Other

Supplies and Materials

Supplies

Textbooks

Library Books

Periodicals

Audio-Visual Software

Food

Warehouse Inventory Adjustment

Other Supplies and Materials

Capital Outlay

Land

Buildings (Additions and Remodeling)

Improvements Other Than Buildings

Equipment

1. New Equipment Purchases
2. Replacement Equipment Purchases

Vehicles

1. New Vehicles
2. Replacement Vehicles

Other

Other Objects

Redemption of Principal

1. Principal of Serial Bonds
2. Principal of Short-Term Loans

Interest

1. Interest on Serial Bonds
2. Interest on Short-Term Loans

Dues and Fees

Insurance and Judgments

1. Property Insurance
2. Fidelity Bond Premiums
3. Judgments Against the School District
4. Student Accident

Miscellaneous Objects

Transfers

Fund Modification

Transits

Other Transfers

With the completion of the list of object-cost categories and with the completion of the program structure from Step 2, it is possible to build a matrix which encompasses every possible expenditure a district might make. This matrix is built by listing object-cost categories down the left side of a page and the program structure across the top of the page. Lines can be drawn to separate the categories and the programs into discrete entities. The result is a total direct-cost program matrix as shown on the top of page 21.

**MATRIX OF THE DIRECT COSTS OF ALL OPERATING PROGRAMS IN EMERALD SCHOOL DISTRICT
(Fiscal Year, July 1 - June 30)**

OBJECT-COST CATEGORIES	ALL OPERATING PROGRAMS					
	Instruction	Instructional Support	Administration & Coordination	General Services	Community Services	Total
Salaries, Wages, and Employee Benefits						
Purchased and Contracted Services						
Materials and Supplies						
Capital Outlay						
Other Expenses						
Transfers and Adjustments						
Total						

SUMMARY DIRECT COST MATRIX — EMERALD SCHOOL DISTRICT

Object-Cost Categories	Instruction				Instructional Support
	Regular		Special		etc.
	Elem	Sec	Elem	Sec	
Salaries, Wages, Benefits					
Regular					
Certified		100			
Classified					
etc.					

Each of the "boxes" in the matrix represent "data cells" in which financial data can be stored. For instance, using such a matrix, if \$100 is spent for regular, certified salaries for teaching in secondary, regular, instruction, the expenditure is "plugged into" the appropriate space. Similarly, every expenditure can be likewise identified.

The matrix described above forms the basic structure upon which program budgeting and cost accounting rests. Although a district may not want to take the time and effort to actually construct such a matrix, it is the "conceptual framework" which underlies all such programs. This is true regardless of the specifics of its content, the computer applications used, or the procedures followed to implement it.

One final task remains to be done before moving to the next step. That task is the identification of funds. Funds are created to segregate monies for carrying on special purposes or specific activities in the district. All revenues controlled by the district are classified by funds.

Depending on the requirements of a state's accounting system and local district procedures, funds are established in different categories. In the Emerald District, the funds established included:

1. General Fund
2. Special Revenue Fund
3. Debt Service Fund
4. Capital Project Fund
5. Food Services Fund
6. Pupil Activity Fund
7. Intra-Governmental Service Fund

In the Diamond District, the designated funds were:

1. General Fund
2. Special Revenue Fund
3. Debt Service Fund
4. Capital Project Fund
5. Food Service Fund
6. Trust and Agency Fund

Funds are established for special services as indicated by their titles. As revenues are collected and expenditures made, the appropriate funds are credited or debited. It is the General Fund which bears the heaviest load of transactions, since this fund includes all expenditures not included in the other special purpose funds.

4. Choose a Computer System

The selection of a computer system should rest on three considerations. The first is whether or not the system can provide the information which is needed by the district. Often, commercially available computer capabilities specify the limits of information production. Such a situation should be avoided. Presumably, each district knows its own needs. Therefore, those needs should be the determining factors of selection, rather than allowing the computer system to dictate

those services that the district will receive.

The second consideration is cost. Several pricing approaches are available: a cost based on student enrollment, a cost based on the number of reports or documents produced during a given period of time, a flat contract for the work requested, or some combination of these. The important consideration here is that comparative "shopping" is necessary in order to obtain the desired services at the lowest possible cost.

Finally, processing time is a crucial point. Some computer firms offer "batch processing" vs. "real time" service. Batch processing refers to the processing of information at specific times, for instance once a month. In this case, the district prepares information for processing at a specified time, and receives processed information at a subsequent specified time. In a real-time arrangement, information is processed as it is generated, usually through remote terminals installed in the district office. Obviously, costs will differ between the batch processing and real-time arrangements, but so will the services to be rendered. The advantage of the real-time arrangement lies in the availability of information, since with this type of service, information is available upon demand. However, with the batch processing arrangement, information is available only at specified times. In considering the two types of processing, costs and the district's needs should dictate the final choice.

The other factor which should be considered in choosing a computer system is that of personnel. Too often, computer systems provide a machine capability without regard for the persons who are responsible for the operation of that system. A computer firm which provides capable people who understand not only the intricacies of the computer, but also the requirements of a district, should rate

high among those firms being considered for possible service contracts.

Although we have discussed only commercial firms which provide computer service, intermediate educational districts, universities, and independent educational service agencies often provide the same service. These, too, should be contacted in a district's search for computer service. In investigating the possibility of using such agencies, just as in a search among private firms, considerations of need, cost, and processing time should be compared.

5. Prepare a Code

The matrix described in Step 3 contains many "boxes" or "data files" each of which represents a "place holder" for the amount of money allocated to the function it represents. In addition, each "box" can contain information about the amount of money expended from that allocation. Thus, it is necessary to be able to both insert and retrieve information from each "box."

The easiest way to achieve this is to assign each box a number which serves as an "address" or a code number. However, to simply number the boxes consecutively does not prove to be the most usable way to use such a coding system.

A coding system integrating the logic of the matrix itself is a far more convenient way to approach the task. Beginning on the left side of the matrix on page 23, the first object-cost category is Salaries. Salaries are, therefore, coded with a "1." The salaries category is subdivided into several other sub-categories — Regular, Temporary, and Overtime in the case of the Emerald School District. To code these three subdivisions, the numbers "1," "2," and "3" are used. The resultant code for Salaries Regular, when the two code numbers are placed side by side is "11" (one-one, not eleven). For Salaries Temporary, the code is "12," and for Salaries Overtime, "13."

Salaries Regular are subdivided

further into Certified, Classified, and Supervisory. To code this subdivision, the codes are again "1," "2," and "3." In the code structure, this subdivision would appear in the third column. Thus, the code for Salaries, Regular, Supervisory, would be "113;" for Salaries, Regular, Classified, "112;" and so on. This logic extends throughout the entire list of object-cost categories. In such a system, each number has a specific meaning — the first number, the general category; the second number, a subdivision of that category; and the third number, a further subdivision. As a result, in the Emerald District, a code of "311" represents Purchased Services, Professional and Technical Services, Instruction Services. Or stated another way, purchased, professional and technical, instructional services.

Similarly, a code is developed for all of the activities or functions specified across the top of the matrix. In working across the top, a "1" may represent "Instruction," a "11" might represent "Instruction Elementary," with a "12" representing "Instruction Secondary." This process is repeated to the most finite level of categorization.

At least one digit is necessary for each level of categorization indicated. However, in some cases two digits may be necessary. For example, in the case of grade levels, two digits are needed to accommodate the high school years, or if there are more than 9 subject areas, two digits would also be necessary. The matrix here includes five levels of categorization. Thus, in this example, the code for the activity of Instruction, Regular, Elementary, First Grade, Arithmetic would be 111-0101.

To achieve a specific identity for each "box," it is necessary to combine the two codes described above. This combination is achieved by listing the two codes, side by side, separating them with a hyphen. The resulting code for the box described as Regular,

SUMMARY DIRECT COST MATRIX — EMERALD SCHOOL DISTRICT

		1	Instruction			
		1	Regular Education			
		1	Elementary Education			
		01	Grade One			
			Arithmetic	Language	Music-Art	Physical Ed
Object-Cost Categories	Code	111-0101	111-0102	111-0103	111-0104	
Salaries, Wages, Benefits	100					
Regular Salaries	110					
Certified	111					
Classified	112					
Supervisory	113					
Temporary	120					
Certified	121					
Classified	122					

Certified, Salaries of First Grade, Arithmetic, Elementary, Regular, Instruction would be 111-111-0101.

Two additions to this 8-digit code are possible. The first is a location code. If a district requires information about costs which occur in different locations, for example in different school buildings, these locations must also be assigned a code. The "Adams Elementary School" might be assigned a code of "1," the "Bardot Elementary School" a "2," and the "Carmen Elementary School" a "3," etc. Such a system is applicable if the district has 9 or fewer coded locations. For ten or more locations, however, the schools would need to be designated by codes of "01," "02," "03," through "99." The location code can be incorporated into the remainder of the code in any position desired — at the front of the other digits, between the two sets of digits, or at the end. If the location is placed between the two other sets of digits, the infor-

mation for Adams School would be contained under the code 111-01-111-0101.

Salaries	Regular	Certified	Adams School	Instruction	Regular	Elementary	Grade 1	Arithmetic
1	1	1	- 01	- 1	1	1	- 01	01

Finally, it is necessary to code the fund from which each expenditure is to be drawn or amount is to be budgeted. This is ordinarily accomplished by simply assigning numbers 1 through 9 to the list of funds identified. By placing

General Fund	Salaries	Regular	Certified	Adams School	Instruction	Regular	Elementary	Grade 1	Arithmetic
1	- 1	1	1	- 01	- 1	1	1	- 01	01

the appropriate fund at the beginning of the code, we now have an eleven digit code which can address each possible box in the matrix. Thus, an expenditure coded i-111-01-111-0101 represents an expenditure from the general fund, for regular certified salaries, at the Adams School, for first grade arithmetic in the regular instruction of the district.

In addition to building a district's own code, three other sources of coding schemes are readily available. These schemes provide ready-built codes, but may not reflect the detail required by a district, or on the other hand, may represent more detail than is needed. In any event, they should be considered for their applicability. These sources are 1) **Handbook II Revised**⁷, 2) the state department of education accounting system, and 3) the computer program chosen in Step 4 above. Also, it may be possible to use some combination of these sources. The important consideration is not so much the source of the code, but the development of a code which is able to deliver the information needed and which district personnel are capable of using.

6. Prepare a Code Dictionary

A code dictionary is simply a list of descriptions of the codes employed by a district. The dictionary provides a brief descriptive statement about each code number used in the object cost categories and activities. As such, it provides a communication device to all persons using the code, and forms a definitional basis for the operation of the code system.

Another name for the code dictionary is a "Descriptive Chart of Accounts." By combining the object-cost categories and activities developed in Step 3 with the code numbers developed in Step 5, such a description is produced. A portion of the chart of accounts which was developed in the Diamond District is shown.

⁷ibid.

CHART OF ACCOUNTS DIAMOND SCHOOL DISTRICT 5420

100	Instruction
110	Regular
111	Elementary
11160	
70	
77	
80	
01	Art
04	Language Arts
05	Foreign Language
06	Health
08	Instrumental Music
10	Mathematics
11	Physical Education
12	Reading
13	Remedial Reading
14	Science
15	Social Studies
16	Spelling
17	Special Programs
18	Vocal Music
20	Other
22	

etc.

7. Determine Direct Cost Items

Once the matrix and code system have been fully developed it is possible to account for every cent expended by a district and to charge all expenditures to specific district activities. For example, it would be possible to obtain information about the funds expended for chalk for the first grade reading program. But, one must raise the question, "Is it necessary or even valuable to know the cost allocated to chalk for first grade reading?" If so, then such information should be obtained, but if the information is neither valuable nor useful, there is no point in obtaining it.

This brings us to the question of "direct costs." Direct costs are those costs which can be identified with specific programs and for which there is need to know. For instance, at a district, or building level, it may be necessary to know the total expenditures made for expendible classroom supplies, while the same information at the level of first

grade reading, is probably unnecessary.

Each district must examine its total matrix to determine those items for which costs should be determined. The code numbers will provide easy access for those costs. However, for those items for which specific costs are not judged to be necessary, a pooling or "indirect cost pool" can be generated. Therefore, it is necessary that expenditures be coded in as much detail as the computer program is capable of handling, although for operational purposes, some of the detail may not be necessary. These amounts may be allowed to aggregate in a pool of expenditures which can be allocated, on some formula, periodically.

For example, it is probably easier to charge a school's expenditure for chalk to a pool rather than to individual programs. If desired, at the end of the year the total expenditure for chalk can then be prorated to all programs in the school on the basis of numbers of students, numbers of teachers, hours of instructional time, or some other prorating basis.

One of the largest factors in any district's expenditure of funds is salaries. Accordingly, this expenditure should be charged against programs or activities for which the salaries were expended. But this raises some important questions. How are salaries to be charged directly against programs? By averaging all salaries and charging this average to specific programs? By conducting a study to determine actual amounts of time spent in specific activities, and then prorating the cost based on time? By accumulating salaries in the indirect cost pool and then prorating them as indirect costs?

No simple solution is available to these questions. For each course of action there are arguments both for and against every approach. In practice, no clear-cut answer is available. Districts have used many different approaches for allocating salaries,

but no one method has proved to be "best" for everyone. Probably the most often used approach is to determine the amount of time teachers devote to specific programs, arrive at a cost for that time, and then account for that cost as a direct cost for the respective programs. In order to accomplish this task, the Diamond District developed a form which estimated the amount of time which teachers expended for specific programs. Using five steps provided on an instruction sheet, teachers subsequently converted time to percentages using the time chart provided. The percentages were then recorded on the Time Allocation Form, collected by the principal, and forwarded to the district's Central Office (see pages 26-28). These percentages were converted to dollar figures using each teacher's rate of pay. In this way, a direct cost figure was assigned according to the time a teacher devoted to each activity during the day. This figure was used whenever costs were accumulated for a program or activity throughout the year.

It was recognized in Diamond that the time spent by a teacher in particular programs changes throughout the year. Therefore, each teacher was asked to complete the Time Allocation Form in the fall, and to make necessary alterations at the beginning of the second semester. This provided a twice-yearly update of the salary costs for each program.

Similarly, decisions must be made and information collected concerning other costs which should be charged on a direct cost basis. Once all direct cost items have been identified, methods for prorating indirect costs should be identified. When these two tasks are completed, Step 8 can be undertaken.

8. Recast Current Budget

After the object-cost categories are identified, the programs specified, and the code developed,

the logical next step is to translate the preliminary work into a program budget. This is accomplished by breaking the current budget figures into program dollars, and recording those amounts for future use. In essence, in this step total budgeted dollars are broken into dollar amounts corresponding to the boxes of the total cost matrix.

In order to accomplish this task, the business manager, or another person who is familiar with the budget, must manually divide budgetary amounts into a new configuration of dollars. This takes time, patience, and above all, a thorough knowledge of both the current and program budget structure.

As an example, in the Emerald District \$165,631 was budgeted for the salaries of the 12 classroom teachers in the Lakeview School. This amount was broken down into the actual salaries paid to each teacher. Using the figures generated in the Time Allocation Form, portions of the \$165,631 were then distributed across all activities in the school. The distribution was as follows:

Grade 1 -	\$23,913
Grade 2 -	\$28,033
Grade 3 -	\$27,970
Grade 4 -	\$28,050
Grade 5 -	\$28,969
Grade 6 -	\$28,696

Each of the grade level expenditures for teacher salaries was further broken into specific program costs, again based upon teacher determination of time spent in specific programs. An example of the break out for grade one is shown below.

Arithmetic	\$1,768
Language	1,769
Music - Art	2,646
Physical Education	1,992
Reading	2,709
Science	1,935
Social Studies	1,761
Spelling/Writing	1,299
Other Instruction	2,028
Instructional Preparation	3,241
Noninstructional Activities including Lunch	2,765

Similarly the costs related to teacher salaries for each of the programs in Emerald's other schools were also identified. The entire process took about 10 days to complete. Once completed, the recasting of Emerald's budget provided the district with the basic information necessary for converting to a program budget.

MEMORANDUM

To: Building Administrators
From: Business Manager
Re: Time Allocation

Enclosed are the materials you will need for preparing the time allocation forms. Please read the instructions for preparing the forms carefully before beginning. If you find that the forms are not self-explanatory or you have specific questions, please contact the Business Office. We will be pleased to assist you whenever possible.

Instructions for Preparing Time Allocation Forms

1. Determine the amount of time spent weekly toward a specific activity for each employee.
2. Round the time to the nearest five minute interval.
3. Find the appropriate time allocation on the time chart.
4. Determine the corresponding percentage.
5. Record the percentage on the time allocation form.

Remember to include study hall or other supervision, preparation time or any other activity undertaken regularly during the seven hour teaching day.

TIME ALLOCATION FORM

Diamond School District

Name _____ School _____

<u>Courses Taught</u>	<u>Time Allocation %</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Preparation Time	_____
Other Instruction Duties	_____
Non-Instruction Duties	_____
Lunch	_____
Cocurricular Activities (No extra duty pay, school time)	_____
Cocurricular Activities (Extra duty pay, school time)	_____
Cocurricular Activities (Extra duty pay, outside of school time)	_____

Minutes per week translated to percentage of time spent per week

Min/Week = % of Week	Min/Week = % of Week	Min/Week = % of Week	Min/Week = % of Week
5 min. = .002	80 min. = .038	155 min. = .074	230 min. = .110
10 min. = .005	85 min. = .040	160 min. = .076	235 min. = .112
15 min. = .007	90 min. = .043	165 min. = .079	240 min. = .114
20 min. = .010	95 min. = .045	170 min. = .081	245 min. = .117
25 min. = .012	100 min. = .048	175 min. = .083	250 min. = .119
30 min. = .014	105 min. = .050	180 min. = .086	255 min. = .121
35 min. = .017	110 min. = .052	185 min. = .088	260 min. = .124
40 min. = .019	115 min. = .055	190 min. = .090	265 min. = .126
45 min. = .021	120 min. = .057	195 min. = .093	270 min. = .129
50 min. = .024	125 min. = .060	200 min. = .095	275 min. = .131
55 min. = .026	130 min. = .062	205 min. = .098	280 min. = .133
60 min. = .029	135 min. = .064	210 min. = .100	285 min. = .136
65 min. = .031	140 min. = .067	215 min. = .102	290 min. = .138
70 min. = .033	145 min. = .069	220 min. = .105	295 min. = .140
75 min. = .036	150 min. = .071	225 min. = .107	300 min. = .143

9. Code the Recast Budget

This step involves assigning appropriate code numbers which were prepared in Step 5 to the dollar amounts determined in Step 8. Again this is a manual task. A portion of the recast coding of the first grade allocations in Lakeview School, is shown here:

\$1,788	1-111-01-111-0101
1,769	1-111-01-111-0102
2,646	1-111-01-111-0103
1,992	1-111-01-111-0104
2,709	1-111-01-111-0105
1,935	1-111-01-111-0106
1,761	etc.
etc.	

Translated to words, the first line would read: \$1,769 is budgeted from the General Fund (1) for Regular, Certified, Salaries (111); at Lakeview School (01); for Elementary, Regular, Instruction (111); for Arithmetic (01); in grade one (01).

10. Prepare the Computer Run

In this step we are primarily concerned with transferring the information which has been prepared into a form which will be acceptable for input into the computer. Therefore to successfully complete this step, a close working relationship with computer personnel is necessary. In most circumstances, this step requires key punching and verifying data provided by the district. These punched cards are then fed into the computer and printout is received.

Once available, the printout should be checked for accuracy, the format evaluated for most effective use, and recommendations made for additional runs. The first computer printout represents tangible evidence that the months of work in preparing for the change have resulted in a usable product. That product is, in fact, a program based budget.

11. Prepare Forms

A critical need in the continued use of the program budget and

cost accounting system is the design and use of forms which insure the flow of appropriate information between district personnel, between the district and the computer, and for dissemination of information processed by the computer. Most commercially available data processing packages which may be used by a district include forms which specify needed information.

Another approach is to engage a professional firm to design forms which will meet the needs of both the district and the computer system. This approach can save both time and money if diverse sets of forms are needed, and if the data requirements are detailed and lengthy.

However, in most cases districts will be able to design their own forms. With district personnel knowledgeable of data requirements, and computer personnel who understand both the needs of the district and requirements of the computer, locally designed forms can be developed successfully.

The three forms shown here as examples do not comprise the total list of forms which may be needed, nor do they represent forms which every district can or should use. Rather, they serve as illustrations of the type of information central office personnel in the Emerald District requested in their budget-building process.

Finally, past experience should give some indication of the design and number of forms needed. In fact, most of the information needed for building a program budget is a re-structuring of information similar to that which is needed for traditional budget-building. Thus, alteration of present forms may suffice for many of the district's new information needs.

EMERALD SCHOOL DISTRICT BUDGET WORKSHEET

Principal's Summary of Equipment Requests

School	Program (Leave Blank)		Account Code (Leave Blank)				
Description	Dept.	New (Check)	Replace (Check)	Quant- ity	Total Cost	Prior- ity	Supt. Office Recommend
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							

TOTAL

EMERALD SCHOOL DISTRICT BUDGET WORKSHEET

School _____ Number of Recommended New Staff Positions _____

School/ Department	Code (Leave Blank)	Position Title	Present No. Positions	Justification	Priority	Supervisor Principal Recommends	Supt. Office Recommends

EMERALD SCHOOL DISTRICT BUDGET WORKSHEET

Building & Ground Repair and Improvements

School	Department	Account Code (leave blank)		
--------	------------	-------------------------------	--	--

1. Nature of Service: Repair of Building ☐ Capital Improvement ☐
of Grounds
Capital Improvement ☐
of building
(New Construction) Repair of Building ☐
Equipment
Repair of Grounds ☐ New Building Equip- ☐
ment or grounds

2. Description of request:

3. Estimated Cost: Equipment _____
Installation _____
Shipping Costs _____
Building _____
Modification _____
Maintenance _____
Operation _____
Total _____
Trade, if any _____
Net Total _____

4. Describe equipment to be replaced.

5. Justification: (Use back of form, if necessary)

6. Will this request require an increase in personnel?

7. Was item requested previously? _____ Year _____

8. Priority:

- Required by law or regulation ☐
Essential ☐
Desirable ☐
Non-essential ☐

12. Determine the Point of Entry

After the budget has been recast, forms have been developed and the computer run has been completed, the next step is to apply the same computer technology to cost accounting. This task consists of four separate sub-tasks.

First, a specific time should be set for beginning program cost accounting. This time will depend upon the overall time frame for the total Component Two effort and upon the plan developed at the outset of the project. For example, assuming that a parallel effort (keeping the line item cost accounting in operation concurrent with the program cost accounting system) is to be mounted, we can assume that the regular cost accounting procedures will continue to be followed. Based upon this assumption, let us assume that the previous eleven steps have been completed by three-fourths of the way into the fiscal year. This appears to be a good time to begin, for it provides nine months to complete the first relevant steps and provides three months for testing the cost accounting procedures. Based upon this experience, a decision about moving solely to the program format can then be made.

A second sub-task is to summarize the expenditures and encumbrances to date. Since business transactions have been occurring since the beginning of the fiscal year, it is necessary to summarize these transactions and enter them into the system. This process requires the totaling of all expenses to date for each code category. Similarly, amounts encumbered should also be totaled. The computer system can be used to handle expenditures and encumbrances thereafter on a regular basis.

Third, the totaled expenses and encumbrances should be coded in the same way as was done with budget figures.

The final sub-task is entering the totaled figures into the computer. Accounts have been identified and coded, budget figures have been entered, and expendi-

tures and encumbrances have been totaled and entered. The computer can now be used for providing program based balances on an on-going basis.

13. Prepare the Staff

This step is not a separate and distinct activity. In reality, staff members have been gaining training throughout the previous twelve steps. It is extremely important, however, that time be provided for training staff members and answering questions that may arise. Therefore, a series of staff inservice workshops will probably be necessary to assure that these needs are met.

At a minimum, central office staff, particularly those from the business staff who will have the responsibility for linking the district with the computer, will require additional training or inservice. Also, instructional and support (maintenance, food, and transportation managers for instance) personnel will also need some type of inservice training. And since the board of education will be recipients of information they should be included. In short, all persons who will be expected to directly participate in the use of the new system should receive training.

The inservice should typically cover five major topics. The first topic is the definition of accounts. Those personnel who have used old terminologies and account numbers will ordinarily have an understanding of old definitions. However, in the new system of program budgeting and cost accounting definitions have been changed, and it is important that these new definitions be understood.

Personnel must also become familiar with the new coding system. Early in the planning, the person or persons who will actually code all transactions must be identified. If someone from the business office is assigned this task of doing all of the coding, s/he as well as the others who were previously mentioned must be well acquainted with the structure and content of the code. On the other hand, if the coding task has been decentralized and is being done by personnel who are

responsible for particular programs, such persons must also have a thorough understanding of the code.

Third, since an entirely new set or a modified set of forms has been developed, persons who will be using these forms must be given special instruction to assure that the new forms will be filled out accurately.

In order to successfully use the new system, a new set of procedures will have to be developed. New timelines, new types of input from various personnel, and new kinds of information will be required. These procedures should be articulated and staff members should be instructed in their use.

Finally, there must be on-going training to assure that staff members will be able to read and use the information which is generated since information that cannot be interpreted and understood is of little use.

14. Schedule Operations

When all preparations have been completed, the future of the operation must be decided. At a given point in time, the operation of the old line-item system must stop and the district must move to a total dependence on the new system.

In order to decide when this should occur, consideration must be given to how smoothly the system is currently operating, the competency of staff, and the time requirements for information. Rarely will all factors be operating at maximum in the system when the changeover occurs. However, considering the probability of improvement with use, one can predict the smooth functioning of the system in time.

This decision, then, represents the final step in a long and arduous task. Although, as with the implementation of any new system, there will still be some problems ahead, the main goal has been achieved — the district's program budgeting and cost accounting system is now in operation.

John Banovich
Age 12



5. Other Applications

The focus of this booklet has been the program budgeting and cost accounting process. But, this is not the end of the potential use of such a system. Once the basic steps outlined in this booklet have been completed, several other applications can be added to the system.

Warrant Preparation

Preparing warrants is a necessary activity for all schools. Some districts have purchased machines which are installed in the central office for this purpose, some prepare warrants by hand, and others obtain prepared warrants as an auxiliary to the computerized cost accounting system. Since information must be coded for input to the computer for cost accounting purposes, it takes little extra work to prepare the basic information so that warrants can also be prepared by the same system.

This service can be obtained at a reasonable cost, usually a contracted amount determined by the number of warrants prepared, or on a price per warrant. It is a service which is usually inexpensive to obtain and which saves personnel time in the district. In most cases, this service actually saves money for the district and helps to "streamline" the entire business function.

Personnel Records

In most school districts, personnel records are kept in a file drawer and are maintained by a district secretary. This function, too, can be accomplished through computer technology. To accomplish this task requires a separate sub-program at an additional cost. However, the benefits of maintaining up-to-date records which are integrated with payroll information can be substantial. This application may not be cost beneficial for all districts, but it is an application which should be investigated.

Revenue Accounting

The concern of this booklet has been to install a program budget-

ing and cost accounting system. By implication, revenue accounting can continue under procedures in effect before program budgeting and cost accounting was installed. However, it is quite possible, and in most cases desirable, to move to a computerized revenue accounting system as well. With this application, the total accounting system is encompassed and all financial information can be processed through the computer.

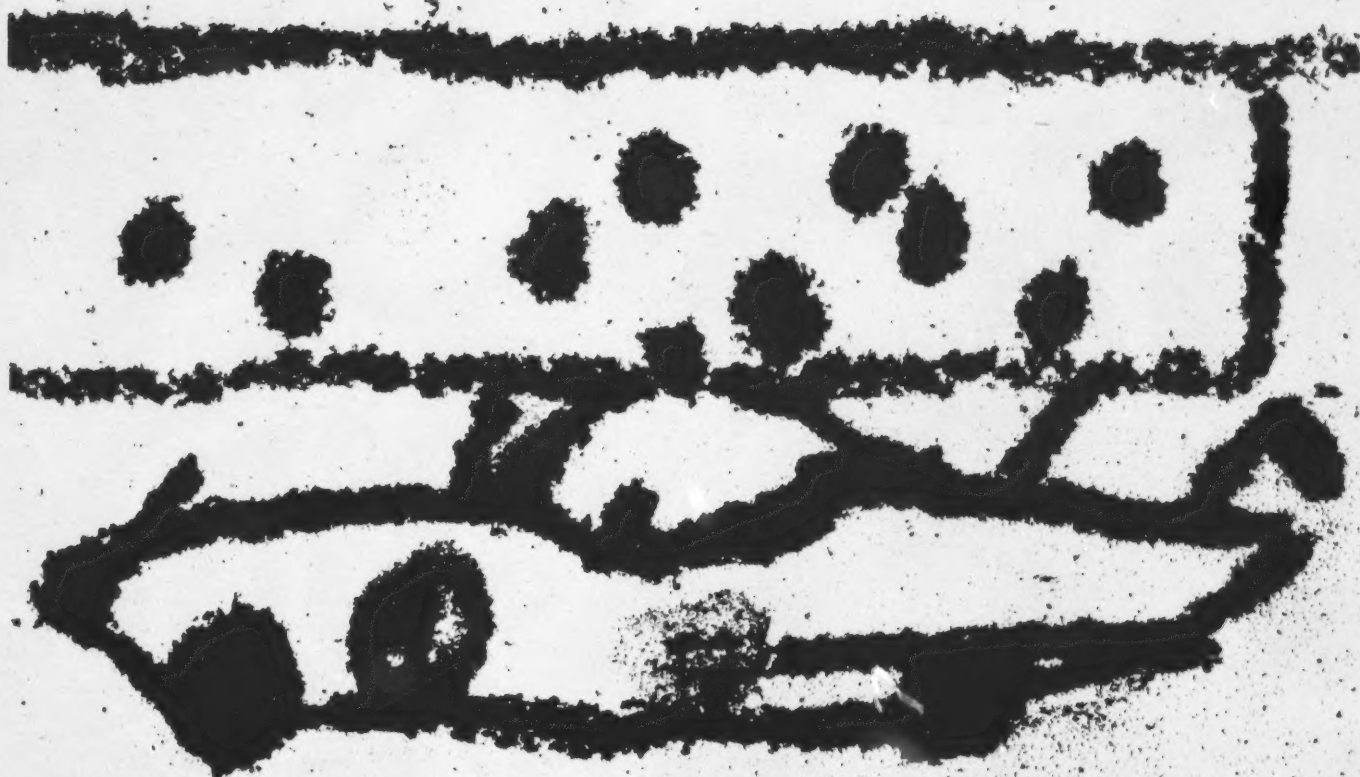
Since the system of budgeting and cost accounting is a more complex operation, it is recommended that revenue accounting by computer be delayed until the budgeting and cost accounting system is well established. In this way, tasks can be undertaken in a step by step manner without jeopardizing the entire effort due to its complexity.

Multi-year Projections

One essential operation of school administrators is that of long-range planning. To have access to data which allows projections for the future can be a significant tool in the planning process. Financial information, collected over a period of time, provides the basis for making projections about the future based on the experiences of the past.

Warehousing Operations

For large school districts, problems of inventory and inventory control can be substantial. Computer technology has been applied to this problem in industrial settings with resultant savings. In school settings, too, computer programs have been written to provide administrators with inventory and warehouse stock information. For those districts in which this area is of concern, it is suggested that contact be made with the computer facility used for cost accounting to determine the feasibility of relating inventory and warehouse operations to the total computer information system in use.



Mark Porter
Age 10
Sandpaper Painting

6. Benefits and Problems

Installing a program budgeting and cost accounting system has both benefits and problems associated with its installation and use. Experience has shown that the benefits and problems differ from district to district, but that there are identifiable patterns. Therefore, the six topics identified below are not exhaustive nor exclusive; however, they represent a list of topics which are likely to be common among districts.

Information Availability

Information is available to administrators and board of education members in a way which makes it more usable than the traditional budgeting and cost accounting approach. It is possible to identify the cost of each program or activity in the school. Decision makers can act on the basis of reliable information. For instance, actual costs of the language arts or transportation program are readily available. With this information, allocation of resources can be made on the basis of "hard" data.

Communication

A program-based budgeting and cost accounting system makes possible the identification and sharing of accurate financial information with citizens, teachers, administrators and board members. No longer are program costs hidden in large "lump sum" figures such as salaries.

This benefit has problems attendant to it, however. Since it is difficult to mask expenditures, funds budgeted and costs incurred are easily identified. Therefore the problem is one of information control rather than of the technical aspects of cost accounting. If information is valued, regardless of the value judgments placed upon its allocation, then undoubtedly, the benefits will compensate for the problems created.

Time Requirements

At the outset, a great deal of

time is required for the change-over to a program budgeting and cost accounting system. This time ordinarily is required of people who already have full-time responsibilities and as a result, their other responsibilities may suffer. Subsequently, the change may require additional funds to employ more personnel. Over a long period of time, however, the benefits of time saved will more than compensate for the costs initially incurred.

False Expectations

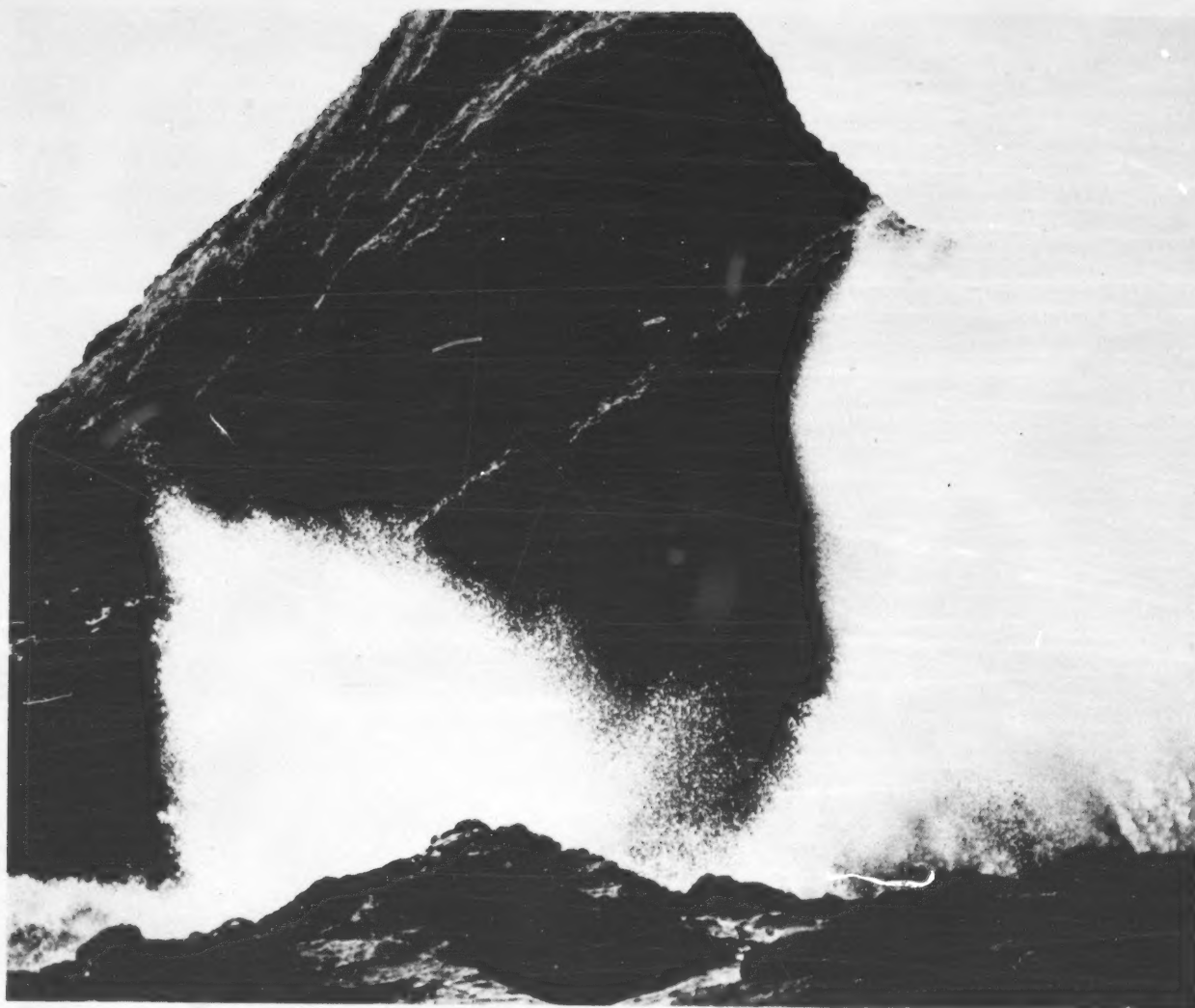
With the advent of the computer to assist in the budgeting and cost accounting function in a school district, some personnel may believe that the computer will solve all the problems. Nothing could be further from the truth. In reality, it is people who must prepare information for the computer and people who must use that information. The computer is a tool, just as the typewriter, the adding machine, or for that matter, the pencil is a tool. The quality of service rendered by that tool is entirely dependent on the people using it. Thus, steps should be taken to insure that false expectations do not develop about the capability of the new system.

Retraining Personnel

Training and retraining of personnel is a constant need. It is a need which will not disappear even with long term use. While there is a need to teach people to successfully use the system, the most critical need is in helping people to effectively use the information generated. The system can deliver tremendous amounts of information, so much information, in fact, that it can inundate potential users. With this potential it is absolutely crucial that users be trained to use the information efficiently and wisely, for it is in its use that information derives its value. Therefore, training programs on an on-going basis should be a part of every implementation.

Other Information Needs

A typical use of financial information, in addition to local decision making, is in the preparation of various types of reports. In most cases, such reports can be prepared with no more than a request for specific information. This is not always the case, however, in preparing various reports for the state departments of education. These reports generally mandate a specific configuration of data which may not entirely coincide with the structure of data in the system. Under such conditions, it is necessary to build a "crosswalk" program which accumulates data for the state department report directly from the new system. This can be accomplished with the help of the computer programmer, and once developed, requires little concern.



Jenny Loughlin
Age 17
Photograph (enlargement)

7. Conclusion

The focus of this booklet has been on the development and installation of a financial information system. It is a system which has the potential of providing decision makers with more information than was previously available to them. Although problems are inherent, as with any change, once solved, the many benefits which are derived will far outweigh the problems created.